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24 APR 1970	E & IL
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REF. NO.	

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REPORT

ON

SPECIAL PROSPECTOR'S LICENSE No. 24

COX'S BIGHT, TASMANIA

FOR

ALSTERGREN PTY. LTD.

by

P. F. Howard B.Sc.(Hons.) AM, Ph.D.

13 Milsons Road, Cremorne Point, N.S.W.

February 12, 1970

MICROFILMED

AMG REFERENCE POINTS ADDED

INTRODUCTION

Alstergren Pty. Ltd. hold title to Special Prospector's License No. 24 covering $20\frac{1}{2}$ square miles of alluvial tin ground at Cox's Bight in the extreme south west corner of Tasmania. The known alluvial tin occurrences lie within the License which is a rectangular area extending from Cox's Bight to Malaleuca Inlet, an arm of Bathurst Harbour.

Within S.P.L. 24, leases 25M/39 (5 acres), 68M/64 (50 acres) and 30M/60 (80 acres) are held by D. King, and lease 120M/47 (40 acres) by W. S. Clayton. The latter three leases at Moth Creek near Malaleuca Inlet are currently being worked by King.

Access to the area is either by fishing boat to Boat Harbour on the eastern shore of Cox's Bight, or secondly by boat to Malaleuca Inlet, approximately 7 miles from Cox's Bight by walking track, or thirdly by light plane from Hobart to the western beach of Cox's Bight or a strip at the Moth Creek Prospect on the Malaleuca Inlet.

HISTORY

Alluvial cassiterite was discovered at Cox's Bight in the 1890's by Lachlan Macquarie. W. H. Twelvetree's 1906 report, records production to that date as 120 tons of tin concentrates averaging 70-75 per cent Sn, all production coming from the sluicing of the shallow hillside deposits and the higher terraces. Renewed activity occurred in 1913 when a Melbourne company explored the

western alluvial flats with encouraging results, though it failed to complete the program due to difficulty with adjacent lease holders. Further exploration in 1926 by an Adelaide company was not followed by production, and since that year only intermittent prospecting and mining has been carried out, principally by L. King and later his son, D. King.

In 1965 the BMR recorded the production from the Cox's Bight district as "about 300 tons" of concentrate. The recorded production by the Mines Department of Tasmania is 187 tons of metallic tin. The production during the last five years is all by King from Moth Creek and is as listed below :-

1965	0.965	tons	metallic	tin
1966	1.5	"	"	"
1967	1.2	"	"	"
1968	0.3	"	"	"
1969	4	"	"	" (estimated)

In 1967 Alstergren Pty. Ltd. commenced exploration in the area and have systematically sampled available old workings, bank exposures and carried out drilling and sampling operations with a portable drilling rig.

GEOLOGY

The rocks in the Cox's Bight area consist of north westerly trending Precambrian schists and quartzites which are intruded by

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Devonian granite, the source of the tin mineralisation. The granite, which crops out over an area of approximately one square mile consists of prophyritic and fine grained phases and exhibits a well defined metamorphic aureole 30 to 40 feet thick. Quartz veins and narrow greisen zones occur within the granite and contain accessory cassiterite, molybdenite and wolfram. Accessory minerals within the granite include garnet, tourmaline, zircon, ilmenite, rutile and topaz. Pegmatites which occur in the metasediments lateral to the granite also contain accessory cassiterite.

The alluvial tin of the Cox's Bight is derived from the granite and its related intrusive phases which are expressed topographically by a hill rising to over 1,000 feet in elevation at a point less than one half a mile from the coast. The high rainfall, 90 inches per year, and the steep slope of the terrain surrounding the granite body has led to the concentration of cassiterite in the surrounding streams and alluvial flats to the east, west and towards the coast. Epeirogenic movements have resulted in the marine reworking of some of the early deposits forming fossil beach or strand line deposits which are now covered by swamps.

The tin deposits may be classified into types of deposits:

- (a) Stream deposits
- (b) Terrace (plateau) deposits
- (c) Swamp deposits.

In addition to the above deposits the modern beaches contain

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concentrations of heavy mineral, and King's prospect at Moth Creek which has some characteristics of an eluvial deposit.

The stream deposits in the foothills were rich but because they consisted of bank alluvium, contained relatively small yardage. Initial sampling by alluvium exposed in banks by Alstergren Pty. Ltd. during 1967-68 show that the banks contain 2 lbs. of cassiterite per cubic yard.

The terrace or plateau deposits occur at the foot of the steep granite terrain where the stream gradient flattens. The deposits consist of talus and boulder material shed from both the adjacent granite and schist-quartzite terrains. On the eastern side of the granite the plateau is flat but with boulders protruding through its surface. At the foot of the high granite, the terrace deposits are approximately 10 feet thick increasing to approximately 40 feet down gradient. Most of the production at Cox's Bight has come from workings within this type of deposit 1,000 feet north of the eastern beach of Cox's Bight.

The swamp deposits are the seaward extension of the plateau deposit and their junction ^ymass represent a shore line. The drill logs of the 1913 exploration together with those of Alstergren Pty. Ltd. drilling in 1968 indicate a thickness of 40 to 55 feet of alluvium some of which appears to be outwash from the granite terrain and some of it marine sand. No mining has been carried out

in the swamp deposits, evidently for the reason that the alluvium is below the water table and could only be worked by dredging; an operation precluded by the number of claims held by different interests.

POTENTIAL

The multiple ownership of the Cox's Bight Tinfield in the past prevented systematic exploration and mining of the field as a single unit. Available data from the 1913 and 1926 exploration programs, the reports thereon by government geologists and the preliminary exploration by Alstergren Pty. Ltd. suggest that a systematic testing program of drilling and pitting should be carried out over approximately 200 acres of known deposits to estimate grade and yardage. If the suggested grade figures of earlier work are accurate, an economic operation should be possible with good technical control of an efficient mining and treatment plant. The stream deposits and the contiguous terrace deposits represent largely dry ground which could be either sluiced or dry mined, while the water saturated swamp deposits could be operated by a cutter head suction dredge.

Apart from assessing the known deposits, prospecting should be extended over the remaining portion of S.P.L. 24 in attempt to find deposits similar to Kings, that is, eluvial or alluvial ground overlying granite which does not crop out.

R. G. A. M. ...
February 12, 1970.

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COX BIGHT TINFIELD
WORK PROGRAMME

RECEIVED	24 APR 1970	E & I L
ANSWERED	DEPT. OF MINES	
REF. NO.		

In this report work requirements at Cox Bight will be discussed in two parts, firstly, exploration technique to be considered in order to locate further drilling targets over the total area within S.P.L. 24, and secondly, work programme to be considered for the immediate area of interest (Cox Bight).

In considering exploration of the total area within S.P.L. 24 the major problem encountered is the possible existence of economical tin deposits covered and concealed by varying thicknesses of Cambrian Quartzites.

Without doubt the alluvial tin deposits within the area are closely associated with intrusive granites, this is exemplified at Cox Bight, but at Kings the tin deposits occur as stratified eluvial horizons in quartzite, *apparently overlying intrusive granites* to a depth of approximately 25 ft. Thus at Kings there is no geological guide to the existing tin deposits, and it must be emphasised that this situation could re-occur at any point within S.P.L. 24.

Economical alluvial tin deposits could occur within this area and be completely obscured to surface. Prospecting and these deposits will occur where granites form shallow basement rocks.

It is suggested that air-bourne geophysics could be used to great advantage within area S.P.L. 24. If basement granites can be outlined or profiled in this way further potential concealed tin deposits could be quickly outlined to form future drilling targets. It is considered that the present workings at Kings could be used as a guide or yardstick in this work. Any resistivity curves or anomaly patterns obtained over Kings workings can be compared with like anomalies obtained elsewhere, and in this way further drilling targets can be outlined with some confidence.

To this end it is suggested that a firm of geophysical consultants be contacted to initially work-out a time and cost estimate for the above work, this estimate will be submitted to the Board for further approval.

IMMEDIATE WORK PROGRAMME

COX BIGHT

During my previous visit to Cox Bight an interesting lode structure was discovered ~~there~~ situated immediately North of the outcropping granite and apparently forming a contact zone between granite and quartzites. The lode zone appears to cover a width of some 200 ft. consisting of numerous quartz lodes of up to 5 ft. in width. This zone as inspected to date appears to follow the granite quartzite contact around it's Northern extremity to area of previous alluvial workings on the Eastern side of Point Eric.

It is proposed to geologically map this zone. Mapping work to be undertaken together with geochemical sampling.

This work would take approximately 14 working days and entail the cutting of some 50 sub-surface samples employing 3 men.

On the Eastern side of Point Eric the ground has been considerably opened up by previous workers (1908 to 1911). It is suggested that where basement granite contact along the Eastern edge of old works is visible, that samples be taken. If granite basement rock is well ^{exposed} along this eastern edge of old works then the basement rocks should be profile mapped. A further 3 sections in an East West direction should be sampled sampling at granite basement only.

The above work would take approximately 12 working days entail the cutting of 100 samples and employ 3 men.

It is important at this stage to re-commence drilling at an early date. To facilitate this the drill pumps should be removed for overhaul, and on completion and re-installation of units with some minor modification drilling should be re-commenced as in Line 7 - (re - drill Line 7 and extend drilling in a Westerly direction). Pump overhaul and re-installation should take approximately 1 week. Once drilling has been satisfactorily commenced it should proceed on a more or less uninterrupted basis. At this stage it is impossible to estimate the total extent of drilling required, therefore, time and cost estimates can only be approximated. Employing 3 men and considering stores, petrol, sampling, assaying etc. Costs would amount to approximately \$1.00 per vertical foot of drilling. 500 ft. vertical drilling should be achieved per working week and on this basis drilling target areas are available for at least a further 3 months constant drilling. \$500

\$6000

FURTHER REQUIREMENTS

At this stage the following requirements are of some importance.

Two-way radio, this question is being investigated but to date no time or cost estimates are available.

Transport, some form of light transport is highly desirable at Cox Bight. But weight and size restrictions as applied to light aircraft make for a very limited choice.

After some investigation the vehicle which does seem to fit all requirements is the New Zealand manufactured Gnat. This vehicle is in the \$500.00 range but will require modification for transportation to Cox Bight. Enquiries are proceeding, assay gear approximately \$150.00 worth of sample preparation equipment will be required to process samples prior to dispatch for assay.

Flat in Hobart - a flat and office is available for rent in Hobart (from Alstergren Pty. Ltd.) Accommodation in Hobart is both difficult and expensive, and as both myself and other members of the Board and staff may be required to spend protracted periods in Hobart, consideration should be given to renting and equipping these premises.

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SUMMARY

Under consideration. Geophysical survey Cox Bight.
Installation of Two-way radio - Cox Bight.
Purchase of vehicle for Cox Bight.
Rent of flat in Hobart.

Work programme. Immediate mapping and sampling -
programme will take 20 working days employing 3 men.
Following above sampling programme drilling will be
re-commenced the cost of this work being approximately
\$500.00 per week assay gear to the cost of \$150.00
will be required.

Considering the first months operation in the field at
Cox Bight sampling, assaying, mapping and drilling
can be expected to cost in the region of \$2,000 per
month plus any further equipment or outside consulting
costs.

Yours sincerely,
T. Sloggett,
Exploration Manager.

LUDBROOKS LIMITEDNOTES ON ADMINISTRATIVE MATTERS ASDISCUSSED WITH MR. M. ALSTERGREN

1. RECORDING OF MINING EXPLORATION ACTIVITIES:

Periodic payment of accounts relating to the mineral exploration division dissecting payments and recording payments in a cash book to be instituted by Mann Judd & Co. It is envisaged that Mann Judd & Co. will provide a person to attend to these matters in the interim.

2. PRESENTATION OF ACCOUNTS:

Operating statements should be prepared for each of the Retailing Division and the Mineral Exploration Division and the net results then transferred to a Statement of Trading, Profit and Loss from which will then be deducted administrative expenses which are unable to be allocated to arrive at a net result for the company as a whole. It would probably be desirable to apportion the Managing Director's salary between the two divisions rather than show it as an unallocated administrative expense. It is envisaged that Mann Judd & Co. will attend to the preparation of the annual accounts of the company, using the accounts for the retailing division supplied } by the Tasmanian Secretary.

3. VICTORIAN SECRETARY:

In order to facilitate signing of documents in Victoria, it would be possible to appoint a Victorian Secretary of the company, whilst retaining the services of the Tasmanian Secretary.

4. OFFICIAL SEAL:

For the reasons outlined in (3) above, it would be desirable for the company to adopt an official seal for use in Victoria. This seal could only be used in Victoria.

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REPORT ON BEHALF OF ALSTERGREN PTY. LTD.

COX BIGHT TINFIELD

SEARCHED	INDEXED	CC&M	AC
SERIALIZED	FILED		
7 DEC 1967			
ANSWERED			
DEPT. OF MINES			
REF. NO. 6308/b7			

The areas held by the present Company consist of Special Prospecting Licence No. 24 of 21 square miles and Special Prospecting Licence No. of acres, district of Kent vicinity of Cox Bight. ref. map 1.

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SITUATION AND ACCESS

The Cox Bight Tinfield is situated on the extreme western tip of the south west Tasmanian coast. Access can only be gained either by fishing boat to Boat Harbour on the eastern shore of Cox Bight (in rather rare good weather), or through Port Davey thence down Malaleuca Inlet to Kings. A walking track from Kings to Cox Bight (approx. 7 miles) would require some attention to make it suitable for vehicular traffic.

The alternate method and the one currently employed, is by light plane from Hobart to the western beach at Cox Bight which forms a good air strip in reasonable weather. An alternate landing strip is available at Kings.

HISTORY

The Cox Bight Tinfield was discovered in the early nineties by Lark MacQuarie. Following the discovery the usual but in this case limited activity took place - various lease holders working small claims. W. H. Twelvetree's report 5th December, 1906 gives a tin concentrate figure to the above date as 120 tons 70 - 75% SN O₂ grade. After this date mining declined and apart from the occasional small producer nothing of note took place, until 1913 when a Melbourne Company undertook the work of exploring the western alluvial flats by way of sinking test shafts, pits, bore holes etc. The work was not completed owing to disputed claims, enough work was however carried out to show interesting tin contents over a limited area. In 1926 a large area of ground was pegged by a Mr. M. R. Freeny on behalf of an Adelaide Company. This Company made no significant advance in prospecting the area, apart from sporadic and limited mining and no prospecting activity of importance has taken place to a recent date. Mines Department records show for the years 1956 to 1958 from Cox Bight Tinfields 1422 tons metallic tin.

For reference to the above period:

- W. H. Twelvetree's report on Cox Bight Tinfield 5th December 1906.
- P.B.Nye's report on Geological Survey Port Davey district 28th March 1924
- A. McIntosh Reid's report on Cox Bight Tinfield 22nd May, 1928.

GEOLOGY AND TOPOGRAPHY

The fundamental rocks of the Cox Bight area consist of highly altered pre-Cambrian to Cambrian schists and quartzites. At Cox Bight the Cambrian schists have been intruded by typically Devonian granites.

The Schists and Quartzites - Highly altered micaceous, contorted and folded, representing the distinctive Cambrian types of Tasmania. And at Cox Bight strike in a general north westerly direction with a dip trend of south south west.

The Granites - The Devonian granites at Cox Bight outcrop over an area of approx. 1 square mile. With subordinate holocrystalline hypabyssal development, the hypabyssal rocks concordant, and discordant with apophyses penetrate the surrounding quartzites for some distance.

The granites themselves vary in structure over a fairly wide range, porphyritic in places with muscovite and phenocrystic feldspars, to a grey granodiorite of finer grain size with subordinate biotite. The visible granite - quartz schist contacts form a 30 to 40 foot wide metamorphic aureole of hard clastic, glassy, ferruginous rocks with occasional obsidian. The granites contain innumerable quartz veins which course block style and range in size from 1/4" to 18", small greisen and greisenised quartz veins are notable.

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The quartz within these veins is crushed and dislodged indicating some later displacement, epeirogenic movement could be responsible but the quartz veins are numerous enough to allow slumping or slipping movements within the granites. Cassitente, minor molybdenite and wolfram occur disseminated within the quartz and greisen veins whilst garnet, tourmaline, zircon, ilmenite, rutile and topaz occur as accessory minerals within the granites. Small limonite veins and areas of staining indicate a small pyrite content in un-oxidised granite. The hypabyssal rocks are not well exposed but where exposed and tested are of pegmatite dyke type and show cassitente in small quartz veins and cassiterite in apophyses development.

The Granite outcrop of Cox Bight rises to over 1000 feet in a distance of less than half a mile and sheds steeply downwards to plateau deposits. Divided by the neck of Point Eric into east and west sections, the topographical and geological features of the lower sections are essentially the same. The features of the western section will be discussed in this report.

The so called plateau deposits consist essentially of talus material shed from the high granites and to some extent from the high quartzites directly behind the granites (rapid after glaciation deposition), consisting entirely of quartz and quartzite angular to rounded aggregate with boulders of up to one foot in diameter. Peaty with wood fragments and lightly re-cemented matrix, the plateau deposits on the western side slope gently southwards, merging into swamp deposits. The southern plateau boundary marking an old shore line (Old lateral zone). At this point the plateau deposit would attain a depth of approximately 30 feet resting on granite bedrock. Becoming shallower towards the granite boundary and graduation in aggregate size (larger aggregate near granite boundary). The succeeding swamp deposit rests on granite bedrock at from 40 feet to 55 feet, a typical drill section being 0 - 5 peat, 5' to 8' angular medium quartz wash, 8' to 10' granitic drift, 10' to 22' angular medium quartz wash, 22' to 30' fine white sand with shell fragments (Old beach sands), 30' to 35' granitic drift (fine), and 35' to 36' large wash on granite bottom. The swamp deposit is water saturated under two feet from surface and incorporates two large fresh water lagoons. The remaining topographical features south of the lagoons being fixed dunes 20' to 25' high and beach sand deposits.

ECONOMIC GEOLOGY

The potentially economic areas at Cox Bight consist of stream alluvium in high granite country. The plateau deposits, swamp deposits and fixed dune and beach sand deposits.

The potentially economic minerals in order of importance are cassiterite, zircon, ilmenite leucoxene rutile.

The high granites - every stream coursing down the high granites carries cassiterite in bank alluvium, typical sections over four separate creeks show :-

2A	0 - 8'	Soil and fine wash	0.5	lb	cub. yard	SN	O ₂
	8' - 9'6"	Medium wash	6.2	"	"	"	"
	9'6" - 11'	Soft granite	1.4	"	"	"	"
3A	0 - 3'	Fine peaty sand	0.7	"	"	"	"
	3' - 5'	Granitic sand	0.9	"	"	"	"
	5' - 6'	Coarse angular wash	4.5	"	"	"	"
	6'	Hard granite bottom	Trace				
2B	0 - 8'	Fine soil	0.3	"	"	"	"
	8' - 11'	Coarse wash on granite bottom	3.6	"	"	"	"
	11'	Granite bottom	0.2	"	"	"	"

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4A

0 - 2'	Fine soil	0.3	lb. cub. yard	SN O ₂
2' - 4'	Granitic wash	0.6	" " " "	" "
4' - 6'	Coarse wash	5.8	" " " "	" "
6' - 7'	Soft granite bottom	1.3	" " " "	" "

The cassiterite is of large grainsize and can be concentrated to a 65% SN O₂ product without difficulty.

The four creeks under discussion are on the western side of point Eric and constitute a minor portion of potential alluvium. Taking a strip 200 yards long, two yards deep and six yards wide along each creek, the approximate tonnage per creek would be 2.400 cubic yards and over the four creeks 9.600 cubic yards. Average cassiterite value over the four creeks could be taken as two pound per cubic yard, indicated value then is 9.600 cubic yards for 19.200 lb cassiterite.

Plateau Deposits - The plateau deposits are as yet untested by the present Company. The deposits are however ideally situated as to tin concentration, with the high granite streams shedding directly into it on the northern side and low grade to good tin values recorded on the southern swamp deposits. On the eastern side of Point Eric a strip of the eastern plateau deposits approximately six chains wide and twenty chains long, from the edge of the granites to the southern edge of the plateau deposit, forms the major part of previous working and it is from this area that the best part of 200 tons 70% SN O₂ concentrate has previously been won.

Swamp Deposits - In order to outline the extent of tin deposition in the swamp deposits, the present company commenced drilling in early 1967 and to August 1967 drilled a total of 57 holes for a combined footage of 2,500 feet., all drill holes being in low swampy ground east and north of Miller Lagoon. The holes were drilled on a close interval basis. Most holes reached bedrock (30' to 45'), sampling being at 5 foot intervals. No detailed account of individual drill holes is necessary in this report, sufficient to say that no definite horizon of heavy mineral concentrate was cut. The following results can be taken as average heavy mineral per short ton of material from 5' to 30'.

Line (4) - EAST OF MILLER LAGOON

Drill holes 1 to 19 yielded a mineral concentrate averaging two pound per cubic yard, which on analysis showed -

Ilmenite	11.4%	TI O ₂
Zircon	7.9%	
Tin	0.55%	SN O ₂
CrO ₃	0.18	
second CrO ₃	0.08	

Lines 4, 5, 6 - NORTH OF MILLER LAGOON

<u>Line 4</u> Average 4 lb.cub.yard Mineral	<u>Line 5</u> 6lb.cub.yard Mineral	<u>Line 6</u> 9 lb.cub.yard Mineral
Ilmenite	30.9%	31.8%
Assay Tl O ₂	26.8	25.2
Zircon	27.9	30.9
Garnet	17.5	13.8
Leucoxene	8.6	5.8
Tourmaline	5.6	6.9
Rutile	4.3	5.5
Cassiterite	3.8	4.1
Assay as SN	1.30	0.99
Staurolite	Tr	0.8
Kynite	Tr	0.4
Topaz	1.4	Tr
Monazite	Tr	Tr
Assay CrO ₃	0.31	0.23
		34.8%
		28.2
		40.3
		6.1
		3.8
		3.8
		3.9
		6.1
		1.49
		0.6
		0.3
		Tr
		0.3
		0.46

SIZING

Sizing test on mineral concentrate as above (previous page)

+ 40	BSS Mesh	0.05	GM
- 40	+ 65	0.1	GM
+ 100	+ 150	4.3	GM
- 150	+ 200	12.4	GM
- 200		4.5	GM

SIZING TEST

An average sample as derived from drill holes Wt of sample 1000 Gms mineral content 1 GM.

+ 40	BSS Mesh	620	GM Mineral content Nil	
- 40	+ 65	280	GM Mineral content Nil	
- 100	+ 150	80	} 100 GMS	
- 150	+ 200	12		} 10 GMS
- 200		8		

The above sizing tests show that a - 100 BSS Meash product retains all the mineral present in sample in a 10% concentrate and indicates the materials' amenability to simple classification.

Line 4 DH 5 Line 5 DH 3 Line 6 DHS 4 5 6.

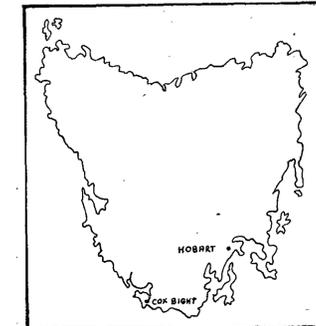
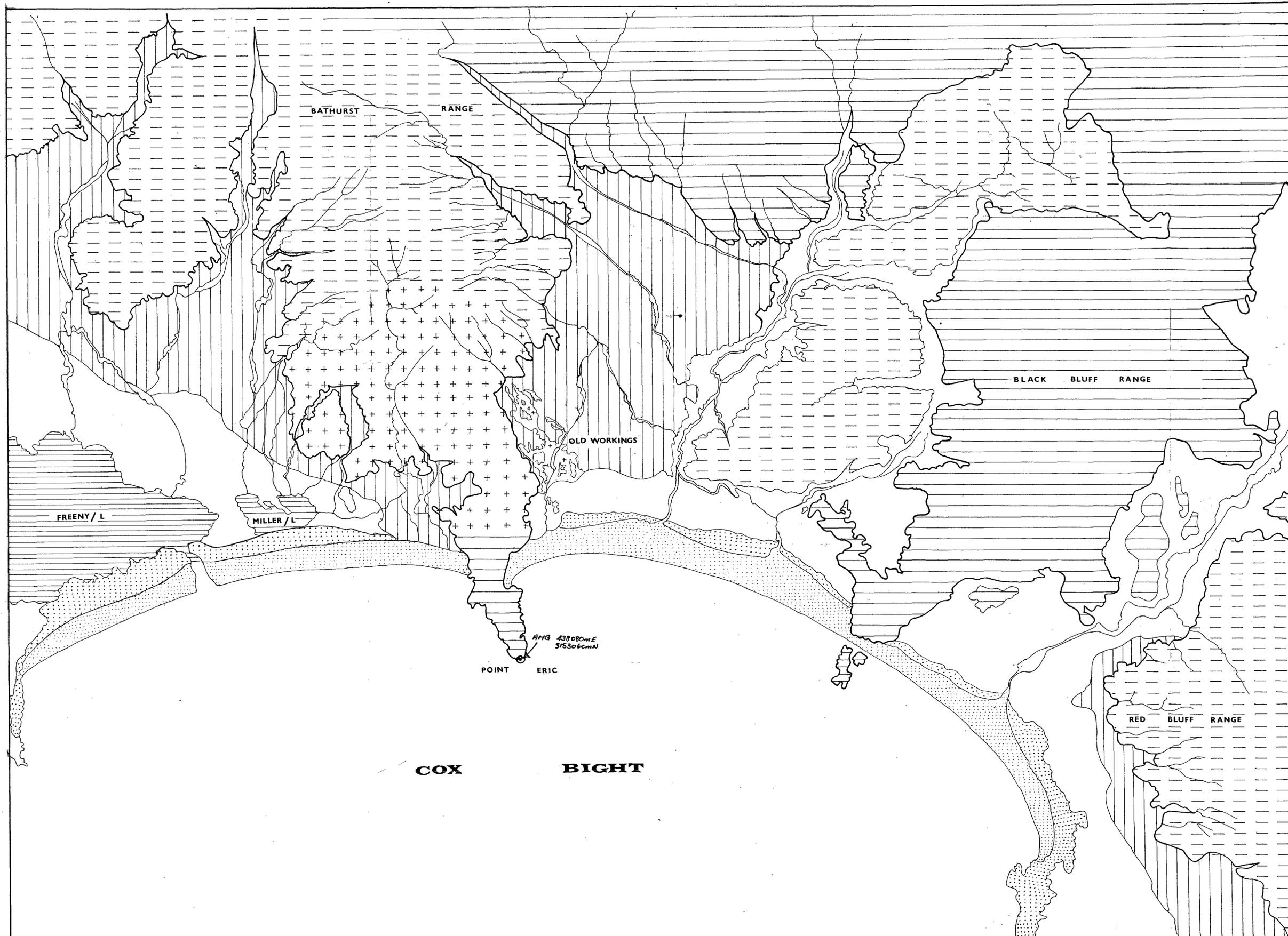
These individual samples selected as high grade yielded a mineral concentrate equal to 7.5% with values identical to those as in line 6.

On the whole the material so far drilled is low grade, Line 6 would yield 60,000 cubic yards with mineral value of 38 cents per cubic yard and this would be under marginal. The five selected holes with mineral equal to 7.5% would yield a small tonnage but mineral value would equal \$4.5 per cubic yard and this would be over marginal.

This rise in value from area (1) with two lb. mineral per cubic yard and 0.5% SN to Line (6) with nine lb. mineral per cubic yard and 1.5% SN is quite significant. This rise in value progressing northwards together with the existance of old beach sands in all drill holes (25' to 30') suggests the possible existance of mineral beach sand concentrates and the geologically ideal position for this type of concentrate would be immediately in front of the old lateral Zone (southern edge of plateau). This would be some 200 feet to 300 feet north of line 6. The possibility of beach sand concentrates in this area plus the waterlogged condition of the swampy ground, (mineral travelling though the plateau deposit would tend to concentrate on reaching waterlogged ground) makes drilling around the plateau edge highly desirable. The existance of this type of heavy mineral also warrants some investigation of the fixed sand dunes. The present beach sands contain visable mineral and some drill holes in the eastern beach areas may prove of interest.

.....
T. Sloggett

Melbourne
5th November, 1967

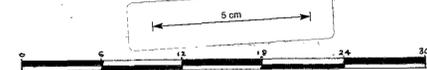


AMG REFERENCE POINTS ADDED

**SOUTH WEST
TASMANIA
COX-BIGHT**

COMPILATION

869015
AERIAL PHOTOGRAPHS AND FIELD SURVEY



SCALE IN CHAINS

- RECENT
 - BEACH SANDS
 - FIXED DUNES
- TERTIARY
 - LAGOON DEPOSITS
 - SWAMP DEPOSITS
- LOWER PLIOCENE
 - PLATEAU DEPOSITS
- PRE CAMBRIAN
 - QUARTZITES
- CAMBRIAN
 - QUARTZ SCHIST
- DEVONIAN
 - GRANITE

LUYONOWAS S.P.L. 24/

Survey and Air-Photo Interpretation by T. SWANSON
 REVISED TO 18/5/70, TRACING T/S.

SOUTH WEST TASMANIA

COX BIGHT

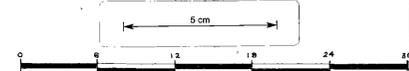
COMPILATION

AERIAL PHOTOGRAPHS AND FIELD SURVEY

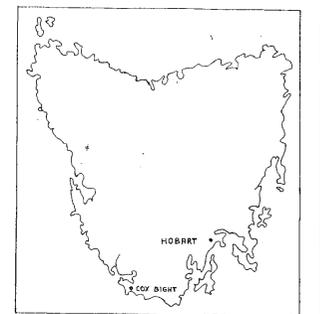
BY
T SLOGGETT 14/9/67

869016

K R I N O Z O I C	RECENT	BEACH SANDS
		FIXED DUNES
T E R T I A R Y		LAGOON DEPOSITS
		SEVAMP DEPOSITS
L O W E R P R O C E N E		PLATEAU DEPOSITS
		QUARTZITES
P R E C A M B R I A N		QUARTZ SCHISTS
		GRANIT
D E L E M E N T A R Y		



SCALE IN CHAINS



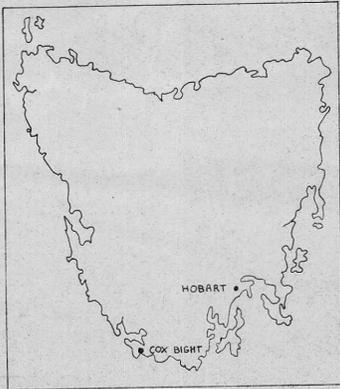
SOUTH WEST TASMANIA

COX BIGHT MOTH CREEK TINFIELDS

COMPILATION FROM AERIAL PHOTOGRAPHS AND FIELD SURVEY

BY

T. SLOGGETT 8/9/1967

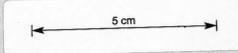


DEVONIAN		PYROXENITES GRANITS
CAMBRIAN		QUARTZ SCHISTS AND QUARTZITE
		LOW QUARTZITE (LITTLE OUTCROP) GRADUATING TO DILUVIAL DEPOSITS
TERTIARY		PLATEAU DEPOSITS GRADUATING TO ALLUVIAL SWAMP DEPOSITS
		PLATEAU DEPOSITS (COX BIGHT ONLY)

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SCALE IN CHAINS



SAMPEY EXPLORATION SERVICES

237 Great Eastern Highway, Midland,
Western Australia, 6056

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Phone: 74 2566

Cables: Exserv
Perth

Field Sheet No:— **869018**

Line No.:— **JOE PAGE BAY**

Project/Charge/
Despatch Note No.:— **S/B**

Date:— **11-MARCH-7**

Any queries please quote Lab. Sheet Number:— **4192 / 1**

SAMPLE	SB					
A 1	BLD					
A 2	BLD					
A 3	BLD					
A 4	425					
A 5	375					
A 6	65					
A 7	65					
A 8	75					
A 9	100					
A 10	60					
A 11	100					
A 12	BLD					
A 13	BLD					
A 14	40					
A 15	BLD					
A 16	BLD					
A 17	260					
A 18	50					
A 19	1420					
A 20	275					
A 21	BLD					
B 1	BLD					
B 2	BLD					
B 3	BLD					
B 4	45					
B 5	BLD					
B 6	BLD					
B 7	BLD					
B 8	BLD					
B 9	BLD					
B 10	BLD					
B 11	BLD					
B 12	BLD					
B 13	SAMPLE MISSING					
B 14	BLD					
B 15	BLD					
B 16	BLD					
B 17	BLD					
B 18	BLD					
B 19	BLD					
C 1	BLD					
C 2	BLD					
C 3	BLD					
C 4	850					
C 5	75					
C 6	75					
C 7	BLD					
C 8	BLD					
METHOD	SB1					

002

SAMPEY EXPLORATION SERVICES

237 Great Eastern Highway, Midland,
Western Australia, 6056

P.O. Box 134, Midland

Phone: 74 2566

Cables: Exserv
Perth

869020

Field Sheet No:—

Line No.:—

JOE PAGE D

Project/Charge/
Despatch Note No.:—

3/13

Date:—

11-MARCH-7

Any queries please quote Lab. Sheet Number:—

4192/3

SAMPLE	SB						
PE 2	BLD						
PE 3	125						
PE 4	45						
PE 5	650						
PE 6	70						
PE 7	65						
PE 8	SAMPLE MISSING						
PE 9	175						
PE 10	200						
PE 11	65						
PE 12	95						
PE 13	350						
PE 14	40						
PE 15	50						
PE 16	90						
PE 17	BLD						
PE 18	50						
PE 19	45						
PE 20	60						
PE 21	BLD						
PE 22	BLD						
PE 23	BLD						
PE 24	BLD						
PE 25	95						
PE 26	80						
PE 27	535						
PE 28	300						
PE 29	BLD						
PE 30	BLD						
PE 31	146						
CH 1	450T						
CH 2	122T						
CH 3	125						
METHOD	SB1						

FORM S34

FOR METHOD DETAILS SEE PRICE LIST

02 003

869021

MACHINE TYPE Atlas TOTAL FOOTAGE 365' 96" HOLE N^os. 1-15
 DATE STARTED _____ PROGRESSIVE FOOTAGE 510 LINE N^o. E
 DATE COMPLETED _____ DRILLER WILSON TOTAL SPACING 400'
 HOURS DRILLED _____ GEOLOGIST _____ AREA IVE PAGE Bldg
 SHIFTING TIME FROM LAST HOLE GEOCHEM 9B 5th TASSMANIA

SPACING	HOLE N ^o	FOOTAGE		SAMPLE N ^o	WATER	DESCRIPTION & REMARKS
		FROM	TO			
	E1	0	6	E1	4 ^{ft}	Grey Black Pyritic Shale
	E2	0	6	E2	"	Grey Shale Some Quartzite
	E3	6	6	E3	"	Grey Black Pyritic Shale
	E4	0	6	E4	"	" " " "
	E5	0	6	E5	"	Fossiliferous Quartzose S/stone minor shale
	E6	0	6	E6	"	Grey Black Shale
	E7	0	6	E7	"	" " "
	E8	0	6	E8	"	" " "
	E9	0	6	E9	"	" " " Highly Pyritic?
	E10	0	6	E10	"	" " "
	E11	0	6	E11	"	Shale and Quartzites
	E12	0	6	E12	"	Fossiliferous Quartzite some shale
	E13	0	6	E13	"	" " minor shale
	E14	0	6	E14	"	Fossiliferous Quartzite S/stone
	E15	0	6	E15	"	" " "
	E16	0	6	E16	"	" " "

869022

MACHINE TYPE 2 1/2" AUGER TOTAL FOOTAGE 186 FT HOLE N°s. 1 TO 31
 DATE STARTED _____ PROGRESSIVE FOOTAGE 656 LINE N° TRANSVERSE PE
 DATE COMPLETED _____ DRILLER LUCAS PEST TOTAL SPACING 25' 9 1/2"
 HOURS DRILLED _____ GEOLOGIST _____ AREA JOE PAGE BAY
 SHIFTING TIME FROM LAST HOLE GEOCHEM 9B S/W TASMANIA

SPACING	HOLE N°	FOOTAGE		SAMPLE N°	WATER	DESCRIPTION & REMARKS
		FROM	TO			
25'	PE 1	0	6	PE 1		Grey Black Pyritic Sand
25'	PE 2	0	6	PE 2		Fawn Quartzose Sand/Silt
25'	PE 3	0	6	PE 3		Grey Black Pyritic Sand
25'	PE 4	0	6	PE 4		Fawn Quartzose Sand/Silt
25'	PE 5	0	6	PE 5		" " "
25'	PE 6	0	6	PE 6		Fawn Quartzose Sand/Silt
25'	PE 7	0	6	PE 7		Fawn Quartzose Sand/Silt
25'	PE 8	0	6	PE 8		Grey Black Sand/Mud/Greyite
25'	PE 9	0	6	PE 9		Fawn Quartzose Sand/Silt
25'	PE 10	0	6	PE 10		Sand and Silt
25'	PE 11	0	6	PE 11		" " "
25'	PE 12	0	6	PE 12		Grey Black Sand
25'	PE 13	0	6	PE 13		" " "
25'	PE 14	0	6	PE 14		Fawn Quartzites and Silt

003

869023

MACHINE TYPE 2 1/2" AULER TOTAL FOOTAGE 186 FT HOLE N^os. 1 TO 31
 DATE STARTED _____ PROGRESSIVE FOOTAGE 656 LINE N^o. PE, TRANSVERSE
 DATE COMPLETED _____ DRILLER L. LAURENT TOTAL SPACING 775 FT
 HOURS DRILLED _____ GEOLOGIST _____ AREA JOE PALE BAY
 SHIFTING TIME FROM LAST HOLE GEOCHEM 9B S/W TASMANIA

SPACING	HOLE N ^o .	FOOTAGE		SAMPLE N ^o s	WATER	DESCRIPTION & REMARKS
		FROM	TO			
25'	PE 15	0	6	PE 15		Grey Black Sand
25'	PE 16	0	6	PE 16		Quartzose Sandstones
25'	PE 17	0	6	PE 17		Quartzite
25'	PE 18	0	6	PE 18		Fine Quartzites
25'	PE 19	0	6	PE 19		" "
25'	PE 20	0	6	PE 20		" "
25'	PE 21	0	6	PE 21		" "
25'	PE 22	0	6	PE 22		" "
25'	PE 23	0	6	PE 23		" "
25'	PE 24	0	6	PE 24		" "
25'	PE 25	0	6	PE 25		" "
25'	PE 26	0	6	PE 26		" "
25'	PE 27	0	6	PE 27		Mainly Quartzite
25'	PE 28	0	6	PE 28		" "

869025

007

MACHINE TYPE POWER 2 1/2" TOTAL FOOTAGE 150' HOLE N^os. 1 TO 25
 DATE STARTED _____ PROGRESSIVE FOOTAGE 390' LINE N^o. C
 DATE COMPLETED _____ DRILLER _____ TOTAL SPACING 615'
 HOURS DRILLED _____ GEOLOGIST _____ AREA JOE PAGE BAY
 SHIFTING TIME FROM LAST HOLE GEOCHEM SB S/W TASMANIA.

SPACING	HOLE N ^o .	FOOTAGE		SAMPLE N ^o .	WATER	DESCRIPTION & REMARKS
		FROM	TO			
25'	C1	0	6	C1		Fawn Quartzose Sand/s
25'	C2	0	6	C2		" " "
25'	C3	0	6	C3		Grey Black Pyritic Shales
25'	C4	0	6	C4		Light Fawn Quartzose Sand/s
25'	C5	0	6	C5		" " " "
25'	C6	0	6	C6		" " " "
25'	C7	0	6	C7		" " " "
25'	C8	0	6	C8		Grey Black Pyritic Shales
25'	C9	0	6	C9		Mixed Shales and Quartzite.
25'	C10	0	6	C10		Fawn Quartzose Sandstones
25'	C11	0	6	C11		" " "
25'	C12	0	6	C12		" " "
25'	C13	0	6	C13		Grey Black Pyritic Shales.
25'	C14	0	6	C14		Fawn Quartzose Sandstones

009

869027

MACHINE TYPE RIVER 2 1/2" TOTAL FOOTAGE 114' HOLE N°s. 1 TO 14
 DATE STARTED _____ PROGRESSIVE FOOTAGE 240' LINE N° B
 DATE COMPLETED _____ DRILLER J. GAWBERT TOTAL SPACING 495'
 HOURS DRILLED _____ GEOLOGIST _____ AREA JOE PAGE BAY
 SHIFTING TIME FROM LAST HOLE GEOCHEM SB S/IN TASMANIA

SPACING	HOLE N°	FOOTAGE		SAMPLE N°	WATER	DESCRIPTION & REMARKS
		FROM	TO			
	1B	0	6	1B		FRM QUARTZOSE SAND/STONES
	2B	0	6	2B		" " " "
	3B	0	6	3B		" " " "
	4B	0	6	4B		" " " "
	5B	0	6	5B		" " " "
	6B	0	6	6B		" " " "
	7B	0	6	7B		" " " "
	8B	0	6	8B		" " " "
	9B	0	6	9B		" " " "
	10B	0	6	10B		" " " "
	11B	0	6	11B		" " " "
	12B	0	6	12B		" " " "
	13B	0	6	13B		" " " "
	14B	0	6	14B		" " " "

ON

MACHINE TYPE LEPICO RUBEN TOTAL FOOTAGE 380' 89' HOLE N^os. D1 TO D14
 DATE STARTED _____ PROGRESSIVE FOOTAGE 9.74' LINE N^o D
 DATE COMPLETED _____ DRILLER J. LAMBERT TOTAL SPACING 2550 FT
 HOURS DRILLED _____ GEOLOGIST ✓ AREA ICE PACE BAY
 SHIFTING TIME FROM LAST HOLE X BECHER 5.3 S/W TASMANIA

SPACING	HOLE N ^o	FOOTAGE		SAMPLE N ^o	WATER	DESCRIPTION & REMARKS
		FROM	TO			
25'	D1	0	6	D1	"	Basaltic Black Sand
25'	D2	0	6	D2	"	Basaltic Grey Beach Sand
25'	D3	0	6	D3	"	" " "
25'	D4	0	6	D4	"	" " "
25'	D5	0	6	D5	"	" " "
25'	D6	0	6	D6	"	" " "
25'	D7	0	6	D7	"	" " "
25'	D8	0	6	D8	"	Fine Grained Quartzose Sand/s
25'	D9	0	6	D9	"	Basaltic Grey Sand
25'	D10	0	6	D10	"	Fine Grained Quartzose Sand/s
25'	D11	0	6	D11	"	Grey Sand
25'	D12	0	6	D12	"	Basaltic Grey Beach Sand
25'	D13	0	6	D13	"	Fine Sand/s with Grey Sand
25'	D14	0	6	D14	"	Fine Grained Quartzose Sand/s

012

869030

MACHINE TYPE AUGER 2 1/2" TOTAL FOOTAGE 126'
 DATE STARTED _____ PROGRESSIVE FOOTAGE _____
 DATE COMPLETED _____ DRILLER _____
 HOURS DRILLED _____ GEOLOGIST _____
 SHIFTING TIME FROM LAST HOLE GEOCHEM SE

HOLE N°s. 1 TO 21
 LINE N° A
 TOTAL SPACING 528'
 AREA DE PAGE BAY
S/W TMS

SPACING	HOLE N°	FOOTAGE		SAMPLE N°	WATER	DESCRIPTION & REMARKS
		FROM	TO			
25'	A 1	0	6	A 1		Fawn Quartzose Sands
25'	A 2	0	6	A 2		" " "
25'	A 3	0	6	A 3		" " "
25'	A 4	0	6	A 4		Brown To Fawn Quartzose Sands
25'	A 5	6	6	A 5		Grey Black Shales
25'	A 6	0	6	A 6		Fawn Quartzose Sands
25'	A 7	0	6	A 7		" " "
25'	A 8	0	6	A 8		" " "
25'	A 9	0	6	A 9		Grey Green Siltic Sand
25'	A 10	0	6	A 10		" " " "
35'	A 11	0	6	A 11		" " " "
25'	A 12	0	6	A 12		" " " "
25'	A 13	0	6	A 13		" " " "
25'	A 14	0	6	A 14		" " " "

016

869034

DATE

LOCATION PORT DAVEY

MAP REF. Nos.

HOLE No. 1 TO 16 LINE 4AREA WEST OF KINGEMAP ①LINE No. 4

DRILLER

SAMPLE No. 1 TO 16

GEOLOGIST

HOLE Interval No	FOOTAGE		Sample Weight GMS	1st Div. W/T Mesh	WASHED 9 - Screens SAMPLE	% W/T Sinks	% S No. Lb. S/T	% Tin Lb. S/Y	REMARKS	
	From	To								
1	0	3	} 2000		GMS					
2	0	3								SMALL Amount
3	0	3								FRACTION OF SINKS
4	0	3								CONTAINS QUARTZ with
5	0	3								Associated CASSITERITE
6	0	3								ASSOCIATED WITH
7	0	3								CASSITERITE
8	0	3								
9	0	3								
10	6	3				900				
11	0	3					0.8			
12	0	3								
13	0	3								
14	0	3								
15	0	3								
16	0	3								

020

71-771

869038

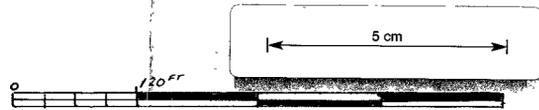
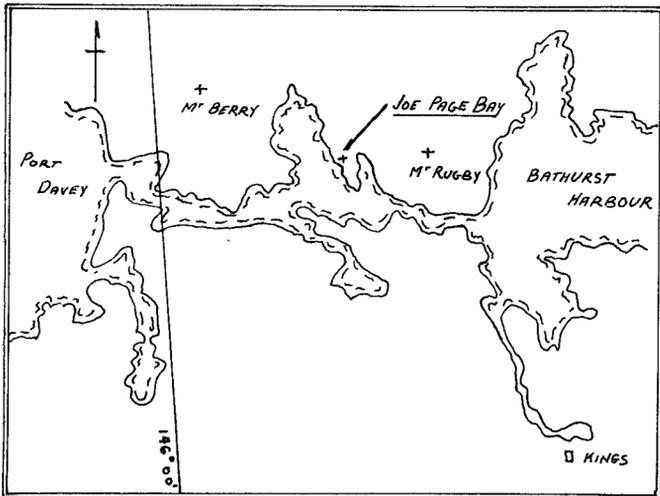
ANTIMONY DEPOSITS

JOE PAGE BAY
PORT DAVEY

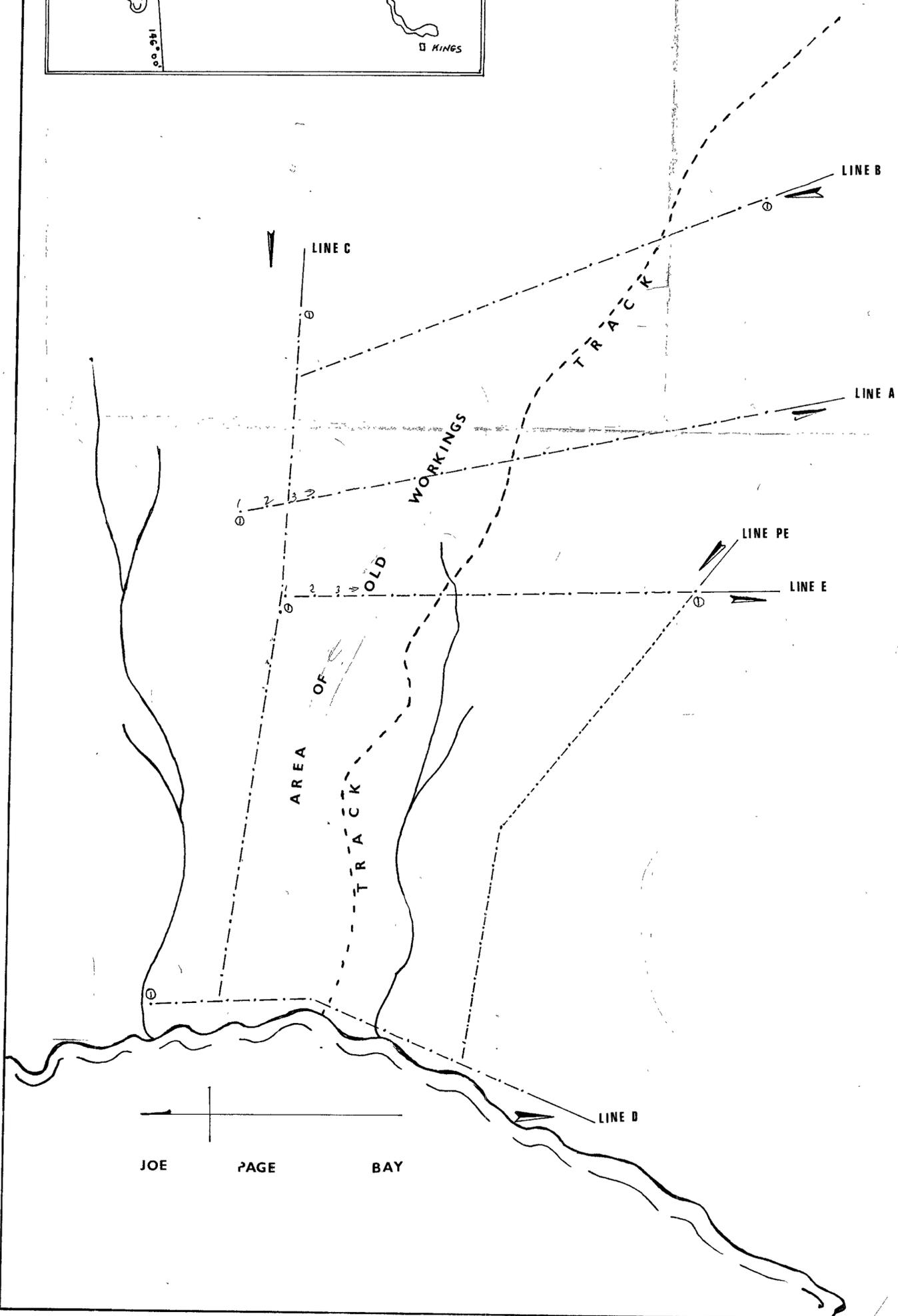
GEOCHEMICAL DRILL PLAN

--- DRILL LINES AND DRILL HOLES
DRILL LINES A TO E 30' SPACINGS
DRILL LINE PE 25' SPACINGS
ALL DRILL HOLES TO 6' DEPTH

SC 3 1000 FT



OPEN CUT
SECTION SAMPLES
SC 1
SC 2



LUDBROOKS LTD	
PLOTTING	T SLOGGETT
DRAFTING	" "
DATE	22/2/71

321

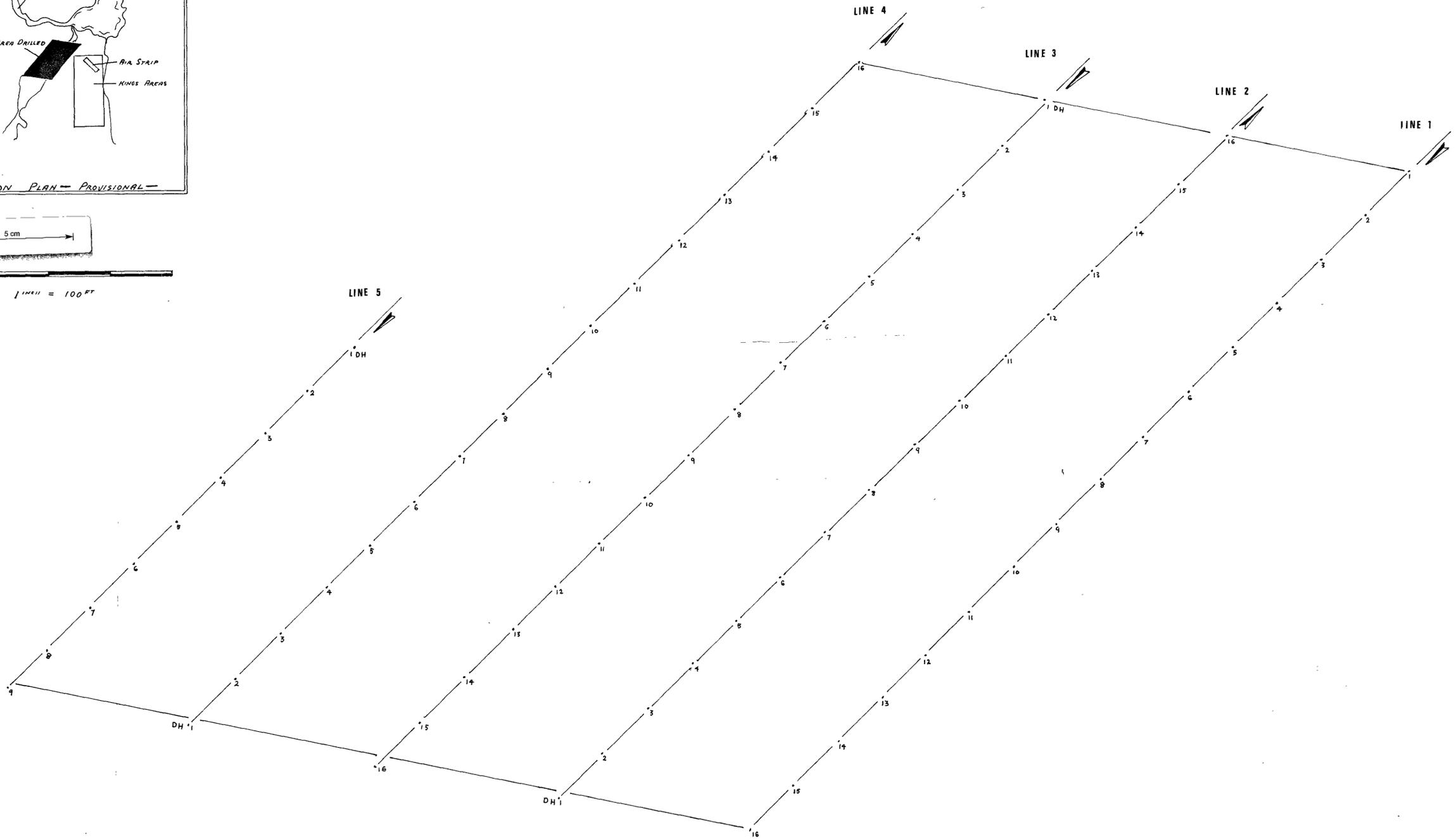
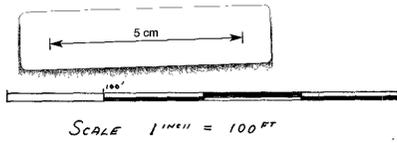
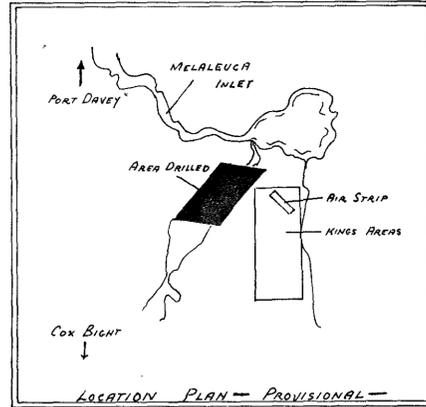
71-771.

869039

PORT DAVEY

DRILL PLAN

63 HOLES TO 3FT ONLY, 2 3/4 INCH AUGER



LUBBROOKS LTD	
PLOTTING	T. SLOTTETT
TREASURY	" "
	2/3/71